



Company ENVIRONMENTAL SCIENCE AND ENGINEERING SOLUTIONS

June 3, 2010

509021

ph (802) 229-4600

fax (802) 229-5876

100 State Street, Suite 600
Montpelier, VT 05602

www.johnsonco.com



SDMS DocID

584919

Trish Coppolino
State of Vermont, Department of Environmental Conservation
Waste Management Division
103 South Main Street/West Building
Waterbury, Vermont 05671-0404

Re: Revised Scope of Work and Cost Estimate for a Limited Phase II ESA
Former Jard Company Site
SMS #VTD048141741
JCO Project No. 3-2218-3

Dear Trish:

The Johnson Company is pleased to provide the Vermont Department of Environmental Conservation (VT DEC) with the following Revised Scope of Work and Cost Estimate for investigation activities at and around the Former Jard Facility (the Site) located south of Bowen Road in Bennington, Vermont (see Figure 1). This revision incorporates changes requested following your review of the initial Scope of Work document dated May 5, 2010. As requested by VT DEC, The Johnson Company has designed an investigation that provides a high level of characterization of off-Site polychlorinated biphenyl (PCB) impacts to groundwater and interactions with surface water. We believe that the investigation presented herein will provide the most accurate and complete assessment of PCB contaminant migration. However, we are aware that funding availability may restrict the scope of the investigation at this time, and The Johnson Company would welcome the opportunity to adjust the investigation to ensure that the most useful data is obtained given the funding parameters. This investigation will better delineate the extent of PCB contamination in groundwater downgradient of the Site, and if appropriate, the impact of PCBs in groundwater to surface water and sediment (i.e. to the northwest, west, and southwest of the Site). PCB contamination was previously identified as a Site-specific contaminant of concern with respect to human health and the environment in environmental investigation reports dating back to 1975. The following Scope of Work details the investigatory efforts The Johnson Company believes are necessary to effectively meet the overall goals of the project. Cost estimates for each task and a schedule for implementation of these tasks are also included.

1.0 SITE BACKGROUND

It is The Johnson Company's understanding that VT DEC is conducting this investigation to evaluate potential off-Site PCB migration in groundwater in advance of transferring the property to Plasan North America for redevelopment as a parking lot.

The Site is located in mixed residential-industrial neighborhood on the southern side of Bowen Road approximately 1,300 feet southeast of the intersection of Bowen Road and Park Street in Bennington, Vermont. The area of interest in this investigation includes the Site and the properties to the west, northwest, and southwest of the Site. The Site is bordered to the south by the Roaring Branch of the Walloomsac River, which flows to the west and northwest, to the north by the former US Tsubaki plant now leased by Plasman North America, and to the west and northwest by Little League Fields.

The Bennington area surficial geology is an area largely mapped as "outwash" of gravel, cobbles and boulders that resulted from deposition of meltwater systems. Lake sands and silty clays are reported to underlie the outwash deposits within the Walloomsac Valley at depths of 30 feet below ground surface (bgs) in the Bennington area¹; however, recent geologic logs have not contained enough information to support or refute the presence of a silt or clay layer. Water wells in the vicinity of the Site have recorded between 5 and 32 feet of "hardpan" (assumed to be cemented gravel, rather than clay or till) and boulders above a gravel unit. Cheshire quartzite (presumed bedrock at this location) was logged at 30 feet bgs in one bedrock well located approximately 2,300 feet north of the Site. It is therefore unclear if there is a confining clay layer beneath the gravel unit at the Site, but the geologic depositional history would suggest that there may be.

The Site itself consists of the westernmost 11.6 acres of the approximately 34-acre Jard parcel, 120,000 square feet of which formally hosted the Jard Company facility, a manufacturer of small capacitors, small non-fluid transformers, and small motors from 1969 to 1989. In 1989, Jard declared bankruptcy, and the Site now has no Potentially Responsible Party (PRP) or current owner. Capacitors manufactured at the facility were coated with zinc and filled with oils containing PCBs until sometime in the 1970s when the plant replaced the PCB oil with dioctylphthalates (DOP; which is also known as bis(2-ethylhexyl) phthalate, or DEHP). The plant made use of oils, degreasers, solvents, and paints during manufacturing processes. The Jard Company is a former RCRA Facility that was the subject of a modified Phase I Site Investigation in 1989 by the Wehren Engineering Corporation (Wehren), which detected PCBs, DEHP, and zinc in surface soils. A fire in the facility in 1997 significantly damaged a portion of the building and may have affected contaminant distribution. The building was demolished in 2005 under the supervision of the US EPA and an earthen cap was installed over the former facility site in 2007. Prior to 1969, the Jard Site was wooded and undeveloped.

PCB transport in groundwater may be impacted by the potential presence of light or dense non-aqueous phase liquid (LNAPL or DNAPL) at the Site. Limited text in a Phase 2 Environmental Site Assessment by Wehren² indicated the presence of a "dark black, oily free

¹ Schilts, 1966. "Progress Report: 1996; The Pleistocene Geology of the Bennington Area, Vermont". William W. Schilts, Open-File Report No. 1966-5.

² Wehren, 1991. "Phase 2 Environmental Site Assessment, Jard Company Property, Bennington, Vermont", Wehren

product" discovered on the water table at 3.5 feet below ground surface during excavation of Test Pit 3 adjacent to MW-3; additionally, MW-3 has consistently contained the highest concentrations of PCBs of all wells sampled at the Site, suggesting the potential presence of PCB-containing LNAPL at the Site. However, the lack of recent observations of free product in Site monitoring wells suggests that any LNAPL was limited in quantity. Additionally, the EPA Polychlorinated Biphenyl Inspection Manual³ identifies a specific brand of PCBs for capacitors that Jard trademarked called Clorphen; although the precise formulation for Chlorophen was not available to The Johnson Company, many capacitor oils contained PCBs mixed with chlorobenzenes that have a specific gravity greater than water and therefore sink. Therefore, there is a potential that DNAPL is present at the Site.

Although previous investigations have shown that groundwater at the Site flows generally from southeast to northwest, surface water at and around the Site is complex. The Jard Site borders the Roaring Branch to the south, but a 10-15 foot tall berm obstructs surface water from flowing south to the river. Northwest and west of the Site, several streams flow from east to west towards Park Street, some of which continue to a wetland area west of Park Street, and others that flow parallel to the Roaring Branch for over a mile. As such, the connection between groundwater at the Site and surface water surrounding the Site has not been clearly established. This scope of work describes a focused investigation of potential PCB presence in groundwater at the Site, its possible migration from the Site, and its potential impact to local ecology and human health.

During a Site visit on April 20, 2010 by VT DEC, The Johnson Company, and ECS, an inspection was conducted of the former Jard building Site and adjacent Roaring Branch banks. An additional walk-through was conducted of approximately 2,000 feet of the recreation path along the Roaring Branch downstream of the Jard Site, approximately 1,000 feet of the eastern side of Park Street from Roaring Branch to the Duck Pond, the wetlands west of Park Street and east of the shopping center parking lot, and Bowen Road between Park Street and the US Tsubaki manufacturing plant now owned by Plasan North America. Access to all areas was by foot.

The EPA ID number of the Jard Company Site is VTD048141741, and the Site ID number is 0102282.

2.0 INVESTIGATION

The scope of work for this project has been developed in accordance with the US EPA's Triad Approach for streamlined brownfield site assessments and cleanups and is intended to focus on potential PCBs in groundwater downgradient of the Site, both in the direction of the

Engineering Corporation, February 1991.

³ EPA, 2004. "Polychlorinated Biphenyl Inspection Manual", Office of Compliance, U.S. EPA August, 2004.

Little League fields to the west and northwest of the Site and the Roaring Branch to the southwest. In order to better assess the extent of and risks posed by PCBs in groundwater at the Site, The Johnson Company and its subcontractors will conduct a subsurface investigation consisting of an initial stage of work that will evaluate if PCBs are migrating off-site at the water table or in groundwater at depth. The results of the groundwater investigation will direct potential subsequent stages of work that will evaluate the extent of PCB contamination in sediment and surface water, if these media are shown to be potentially impacted by PCB contamination in groundwater. Because there are many potential surface water bodies near the Site that could receive groundwater and the off-Site groundwater flow direction has not been defined, The Johnson Company recommends reserving additional sediment or surface water sampling until after a more certain link between groundwater and surface water can be made, and the extent of PCB migration in groundwater has been evaluated. The surface water and sediment screening levels are sufficiently low that samples could be significantly influenced by PCBs deposited by wind or surface water flow, or from older sources that have since been removed, such as the former storm drain.

In addition, pure PCBs are classified as DNAPL. At other sites, like the Hudson River PCBs Superfund site, PCBs migrated downward through the soil to a confining layer, where they pooled or moved downslope. Since DNAPL can be an ongoing source of dissolved contamination in groundwater for many decades, The Johnson Company recommends evaluating the potential for DNAPL presence and migration at and downgradient of the Site. Determining the subsurface geology is imperative to evaluate PCB DNAPL at the Site.

It is not clear whether the groundwater supply well to the north of the former building is still intact (the ECS report indicated that it was destroyed). In this scope of work, the supply well is assumed to be available for sampling.

2.1 STAGE 1A

2.1.1 Monitoring Well Installation and Soil Sampling

To evaluate the extent of PCB migration in groundwater at and downgradient of the Site, a total of seven to eight shallow (<20 feet total depth) and three to five deep (<125 feet total depth) monitoring wells will be installed (see Figure 2; the location of some of the deep wells may be adjusted based on field observations). Given the known geologic conditions of the Site (i.e., gravel and cobbles) use of a Sonic drill rig is proposed because it can efficiently drill through cobbles and boulders, and will produce continuous soil cores that will be necessary to create accurate geologic logs, visually inspect for NAPL, and retrieve soil samples. Soil samples will be collected at two intervals, including within and below any visual contamination observed, during the drilling of the five deep wells. If no visual contamination or screening-level indication of DNAPL is observed, one sample will be collected from the bottom of the boring. Groundwater from the 11 to 12 new wells and 15 existing wells will be sampled for dissolved PCBs and DEHP. DEHP will be used as a tracer to indicate potential contaminant transport.

In order to evaluate the presence of DNAPL, it is recommended that five deep wells be drilled to (but not through) any less permeable geologic layer (such as silt, clay, or bedrock) that would act as an impediment to downward DNAPL migration. To reduce the potential migration of contamination, drilling will not continue through a confining layer. A maximum depth of 125 feet below ground surface is recommended to be cost-effective and likely to reach a confining layer.

Of these five deep wells, one will be installed adjacent to existing well MW-3 to log the depths of transitions between coarse (cobbles, gravel) geologic units and an impeding layer (clay), and to note the precise depth of any NAPL constituents in the subsurface. Two more deep wells will be installed, one upgradient and one downgradient of MW-3 (proposed locations are shown on Figure 2), to determine potential DNAPL presence and depths and trace any DNAPL travel in the direction of shallow groundwater flow or within a localized gravel bowl or trough. *If visual evidence of DNAPL is observed* during the drilling of these borings, two additional deep wells will be coupled with shallow wells along this transect. The precise locations of these wells will be selected after drilling the on-Site deep wells.

Six shallow monitoring wells (<20 feet total depth) will be installed in a roughly north-south transect northwest of the Site, approximately parallel to the transect created by existing wells MW-1, MW-6, EPA-9 and EPA-7 (see Figure 2). The transect will be positioned perpendicular to the presumed direction of groundwater flow and precise locations will be influenced by access from the Little League fields with no disruption to the safe use the fields.

If no DNAPL is observed during the installation of deep wells near the former building location, the two additional deep wells will not be drilled but one additional shallow monitoring well will be installed in a location approximately 25 feet west of MW-6 (inferred to be downgradient of MW-6, but upgradient of the transect). This well will provide additional definition of the shallow plume and groundwater flow direction.

Additionally, one shallow monitoring well will be installed east of the Duck Pond, if the area is accessible. The water level in this well will provide further information as to direction of shallow groundwater flow and will demonstrate if the Duck Pond is being recharged by groundwater. Sampling results from this well will also be used to further evaluate any off-Site transport of PCBs in shallow groundwater. If the planned well location is not accessible, a piezometer will be placed in the eastern end of the Duck Pond for head measurements and sampling.

Dye testing will be conducted in deep wells by compositing soils from 5-foot intervals starting at 15 feet bgs. The soils will be screened for NAPL using Oil-Red-O dye in a field shaker test. To evaluate the downward extent of contamination and the presence of PCBs in soil, one soil sample will be collected in each deep well from any observed free product. If the NAPL is relatively shallow (12 feet or less), a sample will be collected from below the visual boundary

of any observed free product, if it is observed. If DNAPL is encountered in deeper soils (>15 feet bgs) one sample will be collected from the zone of free product and another will be collected from a location above this zone. Drilling in the boring will be ceased upon discovery of DNAPL. Soil samples will be analyzed for PCBs by EPA Method 8082 with Soxhlet extraction. Shallow wells will be constructed with 2-inch PVC pipe and 10-foot screens which will be centered just below the approximate water table. Deep wells will be constructed with 2-inch PVC pipe and 5-foot screens located immediately above the confining layer or in DNAPL, if encountered. If no confining layer or DNAPL is encountered, a 10-foot screen will be used to ensure adequate recharge rates for sampling.

2.1.2 Piezometer Installation

To determine if groundwater is discharging into Roaring Branch, approximately six piezometers will be installed along a reach of the stream beginning to the southeast of the Site and ending approximately 200 feet beyond the Park Street Bridge approximately 1000 feet downstream of the Site, as shown on Figure 2). Water levels within the piezometers will indicate whether reaches of the Roaring Branch near the Site are losing or gaining at the sampling time, and once surveyed, will help create a broader view of groundwater flow southwest of the Site.

The piezometers will be 6-inch stainless steel Solinst 615 drive-point piezometers with schedule 80, 3/4" iron pipe attached temporarily for driving the piezometer into the cobble riverbed. Screens will be located between 1- and 2-feet below the river bed. Conditions in Roaring Branch (i.e. boulders and cobbles) require that the piezometers be installed with a manual slide hammer.

2.1.3 Stage 1A Data Evaluation

All well locations and water levels will be surveyed and mapped as part of Stage 1A. Measurements of water levels in monitoring wells and piezometers will provide information regarding groundwater flow direction off-Site, with specific attention paid to recharge or discharge to Roaring Branch and the Duck Pond. Laboratory analysis of groundwater samples will help determine the likelihood of PCB-contaminated groundwater impacting sediment and surface water. A letter report will be provided to VT DEC summarizing Stage 1A and proposing Stage 1B tasks, which are currently expected to be as described below.

2.2 STAGE 1B

2.2.1 Groundwater Sampling

All accessible monitoring wells will be sampled using low-flow techniques; samples collected will be analyzed for PCBs using EPA Method 8082 and for DEHP using EPA Method 8270 (DEHP only). The 15 existing wells will also be sampled for the same parameters, except for the MW-3 sample, which will be analyzed for DEHP by EPA Method 8270, PCBs by EPA Method 8082, and PCB congeners by EPA Method 1668A. An interface probe will be used to detect any free product in the wells, and a sample will be collected of any NAPL present. For

quality assurance purposes, two duplicate samples will be collected and all samples will be accompanied by a sealed trip bank in an ice-filled cooler under the standard Johnson Company chain-of-custody protocol.

2.2.2 Piezometer Sampling

Groundwater samples will be collected from any piezometers where the stream is gaining and analyzed for PCBs by EPA Method 8082 and DEHP with EPA Method 8270 to further delineate off-Site migration of PCBs.

2.2.3 Stage 1B Data Evaluation

A report will be submitted for review and approval to VT DEC summarizing Stage 1A and 1B tasks. The report is expected to include recommendations for additional investigation of downgradient receptors, as described below for Stage 2.

2.3 STAGE 2

A second stage of investigation would be required if groundwater analytical results demonstrate that PCBs are migrating off-Site and that sediment and surface water may be impacted by groundwater from the Site (i.e., if PCBs are detected in piezometer samples and it is demonstrated that shallow and/or deep groundwater discharges into Roaring Branch, the Duck Pond, or another nearby surface water body). It is necessary to establish this connection before investigating surface water and sediment to verify that any impacts observed are a result of contamination at the Jard Site.

2.3.1 Sediment and Surface Water Sampling

If PCB-contaminated groundwater is shown to be migrating and discharging into the Roaring Branch, three sediment samples will be taken from the northern bank of the river at 100-foot intervals, beginning at the location where the river has changed from a losing to a gaining stream and continuing downstream. Three surface water samples will also be collected and collocated with the sediment samples. If PCB-contaminated groundwater is shown to be migrating and discharging into the Duck Pond or likely to be discharging into other streams in the vicinity, up to three sediment samples and three collocated surface water samples will be taken from the upgradient side of the Duck Pond or other potentially impacted surface water body. Samples will be analyzed for PCB congeners by EPA Method 1668A.

2.3.2 Additional Off-Site Impacts Data Evaluation

Evaluation of PCB analytical data in sediment and groundwater is necessary to determine the potential need for an ecological and human health risk assessment due to off-Site PCB migration. A report summarizing Stage 2 will be submitted to VT DEC for review and approval. The report is expected to include recommendations for additional investigation related to ecological risk evaluation, as described below in Step 3.

2.4 STAGE 3

A third stage of investigation would be required if sediment and surface water affected by PCB-contaminated groundwater at the Site contained concentrations of PCBs above ecological and human health risk screening levels. This stage should be conducted in cooperation with a risk assessor and is anticipated to include biological sampling, toxicity tests, and risk calculations. Costs of tasks within Stage 3 are unknown at this point due limited knowledge of the scope of this stage of work.

3.0 SCHEDULE

The following table is provided as a summary of the anticipated timeline for this project.

| Activities | Activity Start | Activity End |
|--|----------------|--------------|
| Vermont DEC Scope of Work Approval | 6/4/10 | 6/18/10 |
| Pre-marking | 6/21/10 | 6/21/10 |
| Drilling and well installation | 7/6/10 | 7/16/10 |
| Monitoring well and piezometer sampling | 7/26/10 | 7/30/10 |
| Laboratory analysis of samples, surveying | 8/2/10 | 8/16/10 |
| Reporting (if investigation ends at Stage 1) | 8/16/10 | 9/13/10 |
| Meeting with VT DEC | 9/22/10 | 9/22/10 |
| Stage 2 sampling (if required) | 9/29/10 | 9/30/10 |
| Stage 2 laboratory analysis | 10/1/10 | 10/15/10 |
| Stage 2 reporting | 10/18/10 | 10/29/10 |
| Stage 3 planning | 11/8/10 | 11/26/10 |

4.0 COST ESTIMATE

The Johnson Company will perform the above-referenced Stage 1A tasks on a time and materials basis for an estimated total cost of \$124,688. Remaining Stage 1B tasks are estimated to cost approximately \$22,715; Stage 2 tasks are estimated to cost approximately \$9,478. The costs for Stage 3 will be developed in consultation a risk assessor, if these tasks are required. A detailed cost estimate spreadsheet is included as Attachment 1.

Trish Coppelino
State of Vermont, Department of Environmental Conservation
Waterbury, Vermont

June 3, 2010
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The Johnson Company appreciates the opportunity to be of assistance to the VT DEC on this project. Should you have any questions pertaining to this work plan and associated schedule and cost estimate, please do not hesitate to contact us at 229-4600.

Sincerely,

THE JOHNSON COMPANY, INC.

By:



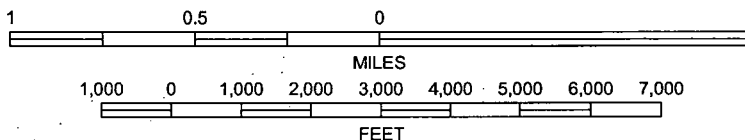
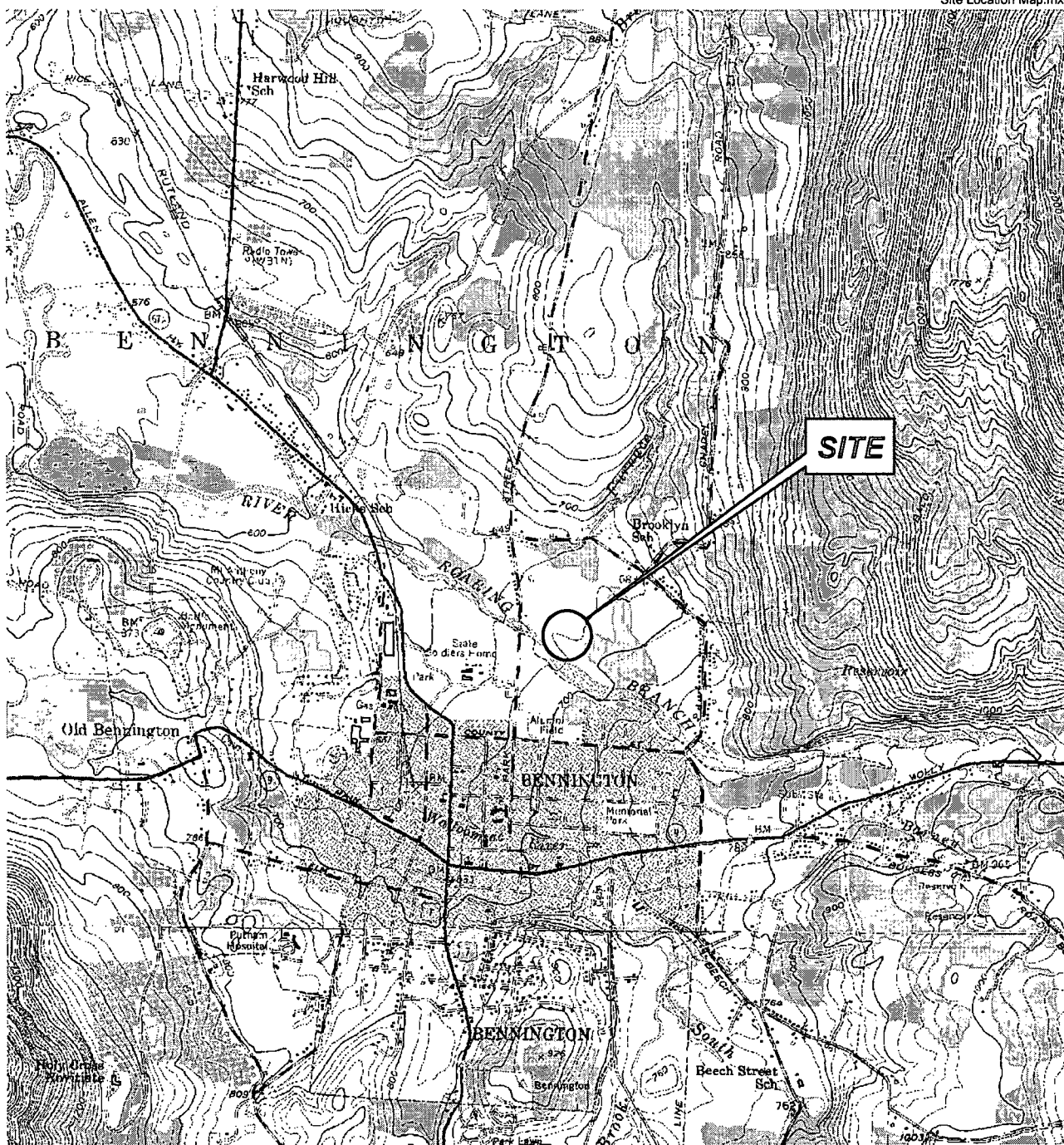
Daniel Baston
Project Manager

Attachment

Reviewed by: RTK
K:\3-2218-3\Documents\Work Plan\60310 Järd Scope of Work.doc

ATTACHMENT 1

FIGURES



MAP LOCATION

BASE MAP: USGS 7.5 Minute Topographic Triangles BENNINGTON 1995 & POWNAL 1995

**SITE LOCATION MAP
JARD COMPANY SITE
BENNINGTON, VERMONT**



100 State Street, Suite 600
Montpelier, VT 05602

Drawn by: DPB Date: 4/28/10
Chkd by: Date:
App'd by: Date:
Scale: 1 inch = 1/4 mile Project: 3-2202-33

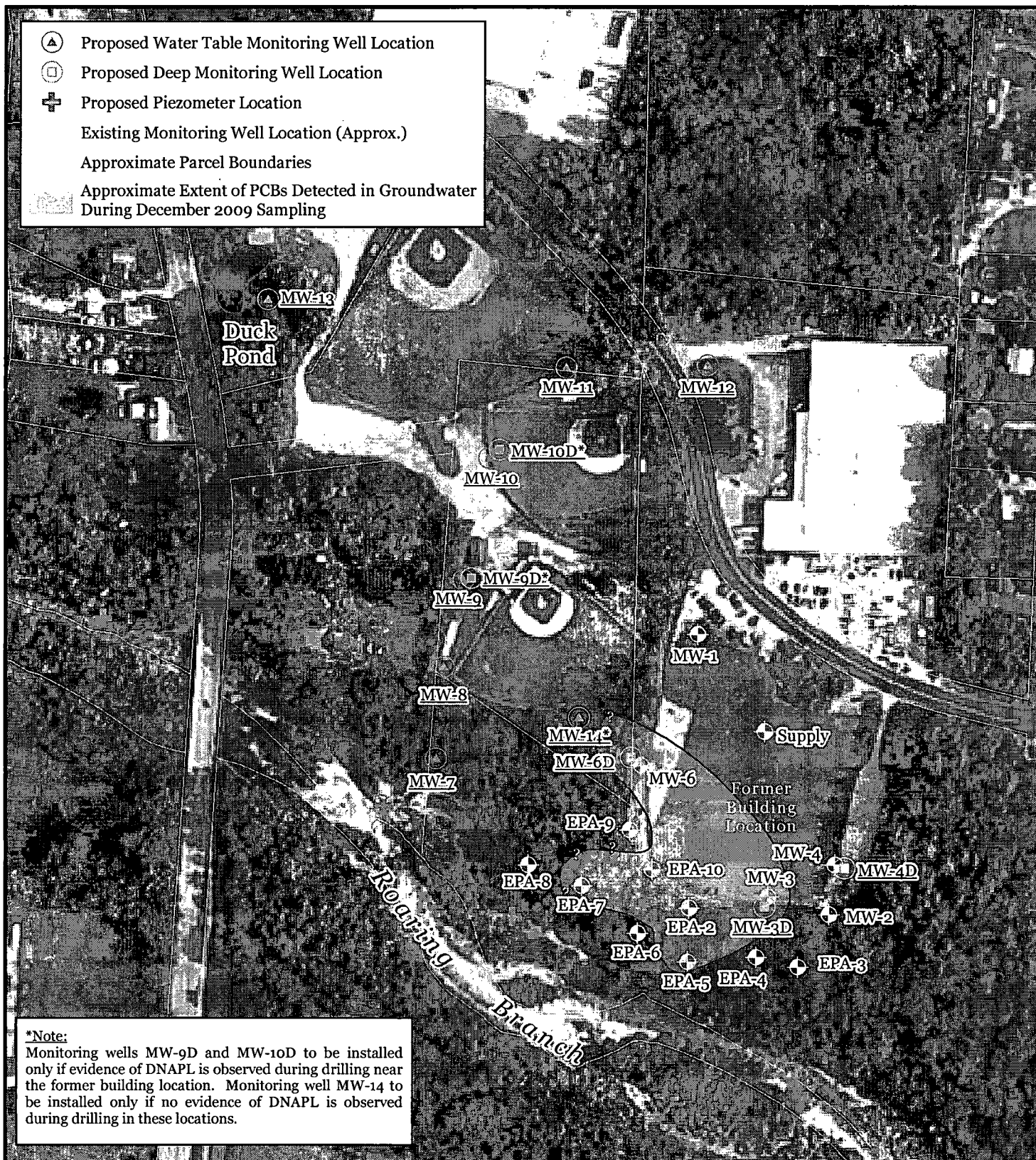


Figure 2: Proposed Well Locations and
Extent of PCBs in Groundwater
Jard Company Site: Bennington, Vermont



100 State Street, Suite 600
Montpelier, VT 05602

Drawn by: DPB Date: 06/03/10
Reviewed by: Date:

Scale: 1" = 200' Project: 3-2218-3



0 100 200 400
Scale in Feet

Sources:
Monitoring Well Locations digitized from map by Stone Environmental, 2005
Parcel boundaries from Vermont Center for Geographic Information
Aerial photography from National Agricultural Imagery Program, 2009

ATTACHMENT 2
COST ESTIMATE SPREAD SHEET

**PCB Migration in Groundwater, Jard Company Site
Bennington, VT**

The Johnson Company

| Items | Personnel/Equip. | Billing Rate/Unit | # Units | Units | Est. Cost | Notes |
|---|--------------------------------|-------------------|--------------------------------------|-------|--------------------------------|---|
| 1. Scope of Work, Preparation, Contacting Subcontractors | | | | | | |
| | Senior Engineer VI | \$105 hr | 8 hrs | | \$840.00 | |
| | Project Sci/Eng II | \$70 hr | 30 hrs | | \$2,100.00 | |
| | Copies, phone calls | \$20 unit | 1 unit | | \$20.00 | |
| | Mileage | \$0.50 mile | 250 miles | | \$125.00 | |
| | | | Sub Total | | \$3,085.00 | |
| 2. Health and Safety Plan | | | | | | |
| | Corp H & S Officer | \$105 hr | 2 hrs | | \$210.00 | |
| | Project Sci/Eng II | \$70 hr | 4 hrs | | \$280.00 | |
| | Copies | \$15 report | 1 ea | | \$15.00 | |
| | | | Sub Total | | \$505.00 | |
| 3. Prepare equipment and sample containers | | | | | | |
| | Project Sci/Eng II | \$70 hr | 3 hrs | | \$210.00 | |
| | | | | | Preliminary Items Total | \$ 3,800 |
| 4. Field Work: Stage 1A | | | | | | |
| 4.1 Premark | | | | | | |
| | Project Sci/Eng II | \$70 hr | 7.5 hrs | | \$525.00 | |
| | Mileage | \$0.50 mile | 250 miles | | \$125.00 | |
| | Cell phone | \$10.00 day | 1 days | | \$10.00 | |
| | | | Sub Total | | \$660.00 | |
| 4.2 Soil Borings, Soil Sampling, Monitoring Well Installation, Piezometer Installation | | | | | | |
| Assumes 7 shallow wells drilled to <20 feet, 5 deep wells drilled to <125 ft, a maximum of 10 primary soil samples, dye testing, and 5 piezometer installations | | | | | | |
| | Senior Sci/Eng VI | \$105 hr | 5 hrs | | \$525.00 | |
| | Project Sci/Eng III | \$70 hr | 130 hrs | | \$9,100.00 | 14 9-hour days for wells, 1 for piezos. |
| | Project Sci/Eng I | \$62 hr | 130 hrs | | \$8,060.00 | 14 9-hour days for wells, 1 for piezos. |
| | Mileage | \$0.50 mile | 500 miles | | \$250.00 | 2 trips |
| | Hotel and per diem (2 staff) | \$350.00 day | 15 days | | \$5,250.00 | |
| | Telephone | \$10 day | 10 day | | \$100.00 | |
| | Sonic Drilling (mobilization) | \$5,280 unit | 1 unit | | \$5,280.00 | Quote from Boart Longyear, MA |
| | Sonic Drilling (shallow wells) | \$3,309 well | 7 wells | | \$23,160.32 | Quote from Boart Longyear, MA |
| | Sonic Drilling (deep wells) | \$12,744 well | 5 wells | | \$63,719.15 | Quote from Boart Longyear, MA |
| | Piezometers | \$20 unit | 6 units | | \$120.00 | |
| | Interface Probe | \$50 day | 6 day | | \$300.00 | |
| | PPE, decon | \$10 day | 14 day | | \$140.00 | |
| | Oil-Red-O dye | \$100 unit | 1 unit | | \$100.00 | |
| | Jars and disposal | \$400 unit | 1 unit | | \$400.00 | |
| | PCB Soil Samples | \$72 sample | 12 samples | | \$858.00 | |
| | | | Sub Total | | \$117,362.47 | |
| 4.3 Surveying | | | | | | |
| Assumes location and elevation surveying | | | | | | |
| | Project Sci/Eng III | \$70 hr | 9 hrs | | \$630.00 | |
| | Project Sci/Eng I | \$62 hr | 9 hrs | | \$558.00 | |
| | Mileage | \$0.50 mile | 250 miles | | \$125.00 | |
| | GPS unit | \$125 day | 1 day | | \$125.00 | |
| | Survey equipment | \$35 day | 1 day | | \$35.00 | |
| | Telephone | \$10 day | 2 day | | \$20.00 | |
| | | | Sub Total | | \$1,493.00 | |
| | | | Field Work Stage 1A Sub Total | | | \$119,515.47 |
| 4.4. Stage 1A Data evaluation; Reporting | | | | | | |
| | Project Sci/Eng VI | \$105 hr | 1 hrs | | \$105.00 | |
| | Project Sci/Eng III | \$70 hr | 7 hrs | | \$490.00 | |
| | Project Sci/Eng I | \$62 hr | 8 hrs | | \$496.00 | |
| | GIS/CAD | \$70 hr | 3 hrs | | \$210.00 | |
| | Secretarial | \$43 hr | 0.5 hrs | | \$21.50 | |
| | Document Production | \$50 report | 1 ea | | \$50.00 | |
| | | | Reporting Sub Total | | \$1,372.50 | |
| | | | Stage 1A Total | | | \$124,687.97 |

**PCB Migration in Groundwater, Jard Company Site
Bennington, VT**

The Johnson Company

| Items | Personnel/Equip. | Billing Rate/Unit | # Units | Units | Est. Cost | Notes |
|--|------------------|-------------------|------------------|---------|---------------------|---------------------|
| 5. Field Work: Stage 1B | | | | | | |
| 5.1 Monitoring Well and Piezometer Sampling | | | | | | |
| Assumes sampling 27 wells, 6 piezometers, and 2 duplicates for PCBs (1 well for congeners) and DEHP | | | | | | |
| Project Sci/Eng VI | | \$105 hr | 1 | hrs | \$105.00 | |
| Project Sci/Eng III | | \$70 hr | 46 | hrs | \$3,220.00 | |
| Project Sci/Eng I | | \$62 hr | 46 | hrs | \$2,852.00 | |
| Mileage | | \$0.50 mile | 250 | miles | \$125.00 | |
| Hotel and per diem | | \$175.00 day | 8 | days | \$1,400.00 | |
| PPE, decon | | \$35 day | 5 | day | \$175.00 | |
| Tubing, misc. supplies | | \$25 well | 10 | wells | \$250.00 | |
| Telephone | | \$10 day | 4 | day | \$40.00 | |
| PCB Aroclor analysis | | \$72 sample | 35 | samples | \$2,502.50 | 33 samples + 2 dups |
| PCB Congener analysis | | \$700 sample | 1 | sample | \$700.00 | |
| DEHP Groundwater Samples | | \$182 sample | 35 | samples | \$6,352.50 | |
| | | | Sub Total | | \$17,722.00 | |
| Stage 1B Total | | | | | \$17,722.00 | |
| 6. Stage 1 (1A and 1B) Data evaluation; Reporting | | | | | | |
| Project Sci/Eng VI | | \$105 hr | 10 | hrs | \$1,050.00 | |
| Project Sci/Eng III | | \$70 hr | 40 | hrs | \$2,800.00 | |
| Project Sci/Eng I | | \$62 hr | 10 | hrs | \$620.00 | |
| GIS/CAD | | \$70 hr | 4 | hrs | \$280.00 | |
| Secretarial | | \$43 hr | 1 | hrs | \$43.00 | |
| Document Production | | \$100 report | 1 | ea | \$200.00 | |
| Stage 1 Reporting Total | | | | | \$4,993.00 | |
| 7.0 Field Work: Stage 2 (If required) | | | | | | |
| 7.1 Sediment and surface water sampling | | | | | | |
| Assumes up to 6 sediment and surface water samples + 1 duplicate per medium analyzed for PCB congeners | | | | | | |
| Project Sci/Eng VI | | \$105 hr | 1 | hrs | \$105.00 | |
| Project Sci/Eng III | | \$70 hr | 15 | hrs | \$1,050.00 | |
| Mileage | | \$0.50 mile | 250 | miles | \$125.00 | |
| Hotel and per diem | | \$175.00 day | 1 | days | \$175.00 | |
| PPE, decon | | \$35 day | 1 | day | \$35.00 | |
| Equipment | | \$25 day | 1 | day | \$25.00 | |
| Telephone | | \$10 day | 1 | day | \$10.00 | |
| GPS unit | | \$125 day | 1 | day | \$125.00 | |
| PCB Congener analysis | | \$700 sample | 8 | sample | \$5,600.00 | |
| | | | Sub Total | | \$7,250.00 | |
| Field Work Stage 2 Items Total | | | | | \$7,250.00 | |
| 8.0 Stage II Reporting | | | | | | |
| Project Sci/Eng VI | | \$105 hr | 5 | hrs | \$525.00 | |
| Project Sci/Eng III | | \$70 hr | 10 | hrs | \$700.00 | |
| Project Sci/Eng I | | \$62 hr | 10 | hrs | \$620.00 | |
| GIS/CAD | | \$70 hr | 2 | hrs | \$140.00 | |
| Secretarial | | \$43 hr | 1 | hrs | \$43.00 | |
| Document Production | | \$100 report | 1 | ea | \$200.00 | |
| Stage 2 Reporting Sub Total | | | | | \$2,228.00 | |
| Stage 1A Total | | | | | \$124,687.97 | |
| Stage 1B Total | | | | | \$22,715.00 | |
| Stage 2 Total | | | | | \$9,478.00 | |
| Investigation Total | | | | | \$156,880.97 | |